

## ABSTRACT

PLANT FATTY ACID SYNTHASES AND USE IN IMPROVED METHODS FOR  
5 PRODUCTION OF MEDIUM-CHAIN FATTY ACIDS

By this invention, compositions and methods of use related to  $\beta$ -ketoacyl-ACP synthase Of special interest are synthases obtainable from *Cuphea* species. Amino acid and nucleic acid  
10 for synthase protein factors are provided, as well as methods to utilize such sequences in constructs for production of genetically engineered plants having altered fatty acid compositions. Of particular interest is the expression of synthase protein factors in conjunction with expression of  
15 plant medium-chain acyl-ACP thioesterases for production of increased levels and/or modified ratios of medium-chain fatty acids in oils of transgenic plant seeds.